

| | Organization | Address | City | Zip Code | Phone | RUCA |
|-----|---|---|---------------|-----------------|----------------|-------------|
| 82 | Spokane Family Medicine | 104 West 5th, Suite 200W | Spokane | 99204 | (509) 624-2313 | 1 |
| 83 | Spokane Veterans Affairs Medical Center | 4815 N Assembly | Spokane | 99205 | (509) 434-7000 | 1 |
| 84 | St Joseph Hospital | 2901 Squalicum Parkway | Bellingham | 98225 | (360) 734-5400 | 1 |
| 85 | St Joseph's Hospital * | 500 East Webster | Chewelah | 99109 | (509) 935-8211 | 10 |
| 86 | St Luke's Rehabilitation Institute | 711 South Cowley Ave | Spokane | 99202 | (509) 473-6298 | 1 |
| 87 | St Mary Medical Center | 401 W Poplar, Box 1477 | Walla Walla | 99362 | (509) 525-3320 | 4 |
| 88 | Sunnyside Community Hospital * | 1016 Tacoma Avenue | Sunnyside | 98944 | (509) 837-1500 | 4.2 |
| 89 | Tri-State Memorial Hospital * | 1221 Highland Ave. | Clarkston | 99403 | (509) 758-5511 | 1 |
| 90 | United General Hospital * | 2000 Hospital Drive | Sedro-Woolley | 98384 | (360) 856-6021 | 1 |
| 91 | University of Washington Medical Center | 1959 N.E. Pacific Street | Seattle | 98195 | (206) 598-3300 | 1 |
| 92 | UW Eastside Specialty Center | 1700 116th Avenue NE | Bellevue | 98004 | (425) 646-7777 | 1 |
| 93 | UW Hall Health | University of Washington, E. Stevens Circle, Box 354410 | Seattle | 98195 | (206) 685-1011 | 1 |
| 94 | UW Medical Center at Roosevelt | 4245 Roosevelt Way NE | Seattle | 98105 | (206) 598-5566 | 1 |
| 95 | UW Medicine Neighborhood Clinic - Auburn | 923 Auburn Way North | Auburn | 98002 | (253) 333-9000 | 1 |
| 96 | UW Medicine Neighborhood Clinic - Belltown | 2505 2nd Ave., Suite 200 | Seattle | 98121 | (206) 443-0400 | 1 |
| 97 | UW Medicine Neighborhood Clinic - Factoria | 13231 SE 36th Street | Bellevue | 98006 | (425) 957-9000 | 1 |
| 98 | UW Medicine Neighborhood Clinic - Federal Way | 32018 23rd Ave South | Federal Way | 98003 | (253) 839-3030 | 1 |
| 99 | UW Medicine Neighborhood Clinic - Issaquah | 1455 11th Ave NW | Issaquah | 98027 | (425) 391-3900 | 1 |
| 100 | UW Medicine Neighborhood Clinic - Kent / Des Moines | 23213 Pacific Highway South | Kent | 98032 | (206) 870-8880 | 1 |
| 101 | UW Medicine Neighborhood Clinic - Shoreline | 1355 North 205th St. | Shoreline | 98133 | (206) 542-5656 | 1 |
| 102 | UW Medicine Neighborhood Clinic - Woodinville | 17638 140th Ave. NE | Woodinville | 98072 | (425) 485-4100 | 1 |
| 103 | UW Medicine Regional Heart Center - Alderwood | 18631 Alderwood Mall Parkway | Lynnwood | 98037 | (425) 774-8251 | 1 |
| 104 | UW Nursing Education | 1959 NE Pacific Street | Seattle | 98195 | (206) 598-4741 | 1 |
| 105 | UW Sports Medicine Clinic | 3850 Montlake Blvd NE | Seattle | 98195 | (206) 543-1552 | 1 |

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|-----|--|--------------------------|-------------------|-----------------|----------------|-------------|
| 106 | Valley Hospital and Medical Center | 12606 E. Mission Avenue | Spokane Valley | 99216 | (509) 924-6650 | 1 |
| 107 | Veteran's Administration Puget Sound Health System | 1660 South Columbian Way | Seattle | 98108 | (206) 762-1010 | 1 |
| 108 | Virginia Mason Bellevue | 222 112th Ave. N.E | Bellevue | 98004 | (425) 637-1855 | 1 |
| 109 | Virginia Mason Central Offices (Administrative) | 1100 Ninth Ave. | Seattle | 98101 | (206) 624-1144 | 1 |
| 110 | Virginia Mason Federal Way | 33501 First Way. S | Federal Way | 98003 | (253) 838-2400 | 1 |
| 111 | Virginia Mason Issaquah | 100 N.E Gilman Blvd | Issaquah | 98027 | (425) 557-8000 | 1 |
| 112 | Virginia Mason Kirkland | 13014 120th Ave. N E | Kirkland | 98034 | (425) 814-5100 | 1 |
| 113 | Virginia Mason Lynnwood | 19116 33rd Ave. W. | Lynnwood | 98036 | (425) 712-7900 | 1 |
| 114 | Virginia Mason Sand Point Pediatrics | 4575 Sand Point Way N E. | Seattle | 98105 | (206) 525-8000 | 1 |
| 115 | Virginia Mason Seattle Main Clinic / Hospital | 1100 Ninth Avenue | Seattle | 98111 | (206) 223-6600 | 1 |
| 116 | Virginia Mason Sports Medicine Clinic | 904 Seventh Ave. | Seattle | 98104 | (206) 223-6487 | 1 |
| 117 | Virginia Mason Winslow | 380 Winslow Way E. | Bainbridge Island | 98110 | (206) 842-5632 | 1 |
| 118 | Walla Walla Department of Human Services | 1520 Kelly Place | Walla Walla | 99362 | (509) 527-3278 | 4 |
| 119 | Washington Department of Health | 101 Israel Road SE | Tumwater | 98591 | (360) 236-4030 | 10.5 |
| 120 | Washington State Penitentiary | 1313 N. 13th Ave. | Walla Walla | 99362 | (509) 525-3610 | 4 |
| 121 | Wenatchee Valley Medical Center | 820 North Chelan Avenue | Wenatchee | 98801 | (509)663-8711 | 1 |
| 122 | Wenatchee Valley Oroville Clinic | 1617 Main St | Oroville | 98844 | (509) 476-3631 | 10 |
| 123 | West End Outreach Services | 530 Bogachiel Way | Forks | 98331 | (360)374-6177 | 7 |
| 124 | Whitman Hospital & Medical Center * | 1200 West Fairview | Colfax | 99111 | (509) 397-3435 | 7.4 |
| 125 | Willapa Harbor Hospital * | 800 Alder Street | South Bend | 98586 | (360) 875-5526 | 7 |
| 126 | Yakima Community Services | 1002 N 16th Ave | Yakima | 98902 | (509) 225-6100 | 1 |

IX. PREVIOUS EXPERIENCE / DEVELOPMENT & MANAGING TELEMEDICINE PROGRAMS

The **AWPHD** has deep knowledge and extensive experience in serving rural hospitals throughout Washington State. Participants in the WTC each have extraordinary knowledge and experience in virtually every health and communications challenge that Washington State has faced. The WTC represents, perhaps, the best and the ‘brightest in telehealth. By capitalizing on the expertise of the WTC partners, the design study can maximize the opportunities for a successful, affordable, sustainable and well used network that brings an unprecedented level of service and healthcare access to rural Washington.

Forks Community Hospital

Forks Community Hospital is a 15-bed acute care inpatient facility and 20-bed long-term care facility serving approximately 11,500 residents of western Clallam and Jefferson counties (the “West End”). The West End is isolated from the rest of the Olympic Peninsula by the vast land holdings of Olympic National Park, Olympic National Forest, and the State of Washington’s Department of Natural Resources. It is also home to three Native American tribes, the Hoh, Quileute, and Makah.

The hospital has a surgical suite and performs limited inpatient and outpatient surgical procedures, obstetrical services, radiology, mammography and ultrasound, laboratory services, physical rehabilitation services, a Health Resource Center, and a volunteer ambulance service. The hospital also has three Level IV trauma rooms

As part of the Clallam County Hospital District #1, Forks Community Hospital administers the North Olympic Telehealth Network and is a “champion participant” in the Western Washington Rural Healthcare Collaborative (WWRHCC).

The North Olympic Telehealth Network serves providers and residents in **two rural counties on the Olympic Peninsula and consists of 11 sites representing community mental health centers, healthcare providers, and other health, education, and social services agencies.**

Telehealth services provided focus on health provider education, mental health and substance abuse services, and primary healthcare services. The North Olympic Telehealth Network has been successful in expanding access to mental health services for rural residents in the project service area and connects rural communities to services that would otherwise not be available in a convenient and timely manner. As well, the network has succeeded in recruiting and retaining providers by creating opportunities for them to interact with their peers and to access educational programs.

Although the North Olympic Telehealth Network continues to operate successfully, inadequate reimbursement mechanisms force members to use operational budgets to sustain the system.

GCI

ConnectMD is a private medical network, owned and managed by GCI, which consists of clinics, hospitals, and medical corporations that can securely exchange information.

By enabling direct connections to members of the medical network and providing access to a suite of health IT tools and services, ConnectMD empowers members to provide better patient care through improved business operations.

MedicalWAN, a network service provider recently acquired by GCI, serves a multi-site medical network spanning from Western to Eastern Washington. With GCI’s investment, the ConnectMD network of

connected facilities expands to provide customers with access to a suite of medical services and connections to over 140 clinics, hospitals, and medical corporations across Washington and Alaska.

Garfield County Memorial Hospital

Garfield County Memorial Hospital is a Level V Trauma Care, Critical Access Hospital. The hospital features a new emergency room that opened to the community in August 2000. Emergency Care is available 24 Hours a day 7 days a week by Trauma Certified Physician, Nurse Practitioner and Registered Nursing Staff.

The hospital provides in-patient acute care and observation. Garfield County Memorial Hospital was the first designated Critical Access Hospital in the state of Washington.

Garfield County Memorial Hospital utilizes telehealth services and applications to support and bolster the level of healthcare it provides to the community it serves.

Inland Northwest Health Services (INHS)

Inland Northwest Health Services (INHS), a 501(c)(3) organization, is a recognized leader in innovative and collaborative healthcare solutions.

INHS has developed a large multi-state telehealth and videoconferencing network, Northwest TeleHealth, which uses the latest technology to provide remote consultations and other clinical services, as well as clinical and educational programs. Using industry standard video conferencing technology Northwest TeleHealth bridges the distance between member locations throughout the Inland Northwest. Currently, Northwest TeleHealth connects over 60 sites in 32 cities scattered throughout Washington and Idaho, with the primary concentration in central and eastern Washington. These locations are independent health care facilities that include regional medical centers, rural hospitals and clinics, mental health facilities, physicians' offices, and several pilot sites in corrections facilities and Indian Health. By transmitting live video, voice and data, Northwest TeleHealth makes it possible for a variety of programs to occur that allow patients, physicians, administrators and health care educators to interact and share information.

All Northwest TeleHealth member locations are connected via a private, secure Wide Area Network (WAN) operated by INHS. This network consists of fiber optic connections where available and T-1 lines where necessary to connect rural sites. A benefit of the WAN is that each member site can coordinate point-to-point calls or more complex multi-site meetings using a video conferencing bridge. H.323 and H.320 technologies allow connections across the WAN or externally via the Internet or Integrated Services Digital Network (ISDN) digital phone lines.

Northwest TeleHealth analysts can connect member sites to each other, as well as connecting them nationally or internationally. In 2006 Northwest TeleHealth hosted almost 2000 video conferencing events connecting sites from Minneapolis to the Aleutian Islands. Northwest TeleHealth technicians coordinate technical, operational support and event scheduling services across the system. A web page software tool allows sharing of a common schedule and links program providers with program participants throughout the region. Through this scheduling system sites communicate program offerings and can sign up for program events they need.

In addition INHS offers many other programs, including Information Resource Management, a health information technology service that currently operates an integrated hospital information system in 34 primarily rural hospitals in the region, as well as an integrated physician office electronic medical record system serving 38 clinics. INHS has leveraged the power of the hospital information systems and the telehealth network by creating rural outreach programs that utilize both technologies. TelePharmacy allows pharmacists at hospitals in Spokane to oversee pharmacy operations in rural hospitals, while

TeleER enables rural emergency room staff to seek telehealth consultations from trauma specialists in Spokane.

University of Washington Medicine

University of Washington's UW Medicine is nationally recognized for scientific research and training, physician education and exceptional patient care.

UW Medicine works to improve the health of the public by advancing medical knowledge, providing outstanding primary and specialty medical care to people of the region, and preparing tomorrow's physicians, scientists and other health professionals. The University of Washington Medical Center ranks first among public medical schools and second among all medical schools in federal research funding. In addition the UW Medical Center has been ranked as the top medical school for 13 consecutive years in training primary-care physicians, and has top-ranked academic programs in family medicine and rural health. Finally, the University of Washington Medical Center ranks 10th among America's best hospitals in *U.S. News & World Report's* honor roll.

The Telehealth Network in the UW School of Medicine partners with many healthcare providers in Washington State to deliver information, education and services. Currently the University of Washington Telehealth Network is used to facilitate administrative meetings, training, and case consultations. In addition, multi-point video teleconferencing is conducted by and between numerous hospitals and other telehealth networks throughout the State to provide educational conferences, training courses, and administrative meetings to largely rural and underserved communities.

University of Washington Medicine also partners with schools of medicine in the states of Wyoming, Alaska, Montana, and Idaho. WWAMI is an enduring partnership between the University of Washington School of Medicine and these states. The WWAMI program's purpose is to provide access to publicly supported medical education across the five-state region.

WWAMI focuses not only on medical students but on students in K-12, college students, medical school graduates in residency and physicians in community practice.

Virginia Mason Medical Center

Virginia Mason Medical Center an award-winning, private, not-for-profit organization offering a network of network of primary and specialty care clinics throughout the Puget Sound region and a hospital in Seattle that has telemedicine capabilities to provide both real-time and store-and-forward audio/video telecommunication. In addition, the program facilitates the transmission of medical information for both patient and provider education.

As a multi-specialty referral center, Virginia Mason enjoys a strong relationship with physicians in more rural locations. Opportunities are available for senior residents to work side-by-side with expert clinicians in rural Washington and Alaska. Many of these rural sites are connected the Virginia Mason Medical Center through the telemedicine outreach program and satellite system.

Virginia Mason Medical Center is boosting its investment in technology by utilizing GCI's ConnectMD service to strengthen its relationships with physicians and clinicians throughout Washington and Alaska. Using the secure, managed medical network service, Virginia Mason offers Grand Rounds, Continuing Medical Education (CME), and other educational courses via videoconferencing to healthcare workers in urban and remote areas of both states.

Washington State Hospital Association (WSHA)

The Washington State Hospital Association is a membership organization representing community hospitals and several health-related organizations. Today, there are **98** community hospitals in Washington State.

The association provides issues management and analysis, information, advocacy and other services. Most recently, the membership developed the Health Work Force Institute to expand the labor work force for health institutions, and in 2005 launched the Patient Safety program to help hospitals improve patient safety by supporting the adoption of common, evidence-based protocols that have been proven to save lives. **WSHA** works to improve the health of the people of the state by becoming involved in all matters affecting the delivery, quality, accessibility, affordability and continuity of healthcare.

X. PROJECT MANAGEMENT

A. Project Leadership

Overall leadership of the WTC and management of FCC Grant Funding will be provided by Jeff Mero, Executive Director of the Association of Washington Public Hospitals Districts (AWPHD).

Association of Washington Public Hospital Districts (AWPHD) – APPLICANT

The Association of Washington Public Hospital Districts has served as the trade association for Washington State's public hospital districts since 1952, first as an unincorporated association and since 1998 as a non-profit corporation. Each of the member public hospital districts is a governmental entity created by state law and each public hospital district is governed by a board of publicly elected commissioners.

The Association's activities can generally be divided into two categories: education and advocacy

The Association's educational activities focus on the unique characteristics of being a governmental entity and improving the delivery and accessibility of healthcare in hospital district communities. The Association provides members with updates of changes in state and federal law likely to impact public hospital districts.

The Association also provides an opportunity for members to expand their capabilities as hospital district administrators and board members by providing a forum for networking with their peers. Those networking opportunities permit the administrators and board members to learn from others' experience and promote cooperative activities and affiliations among different public hospital districts.

The Association engages in advocacy in order to promote: (1) increased accessibility to and affordability of healthcare services; and (2) improved health status of communities throughout Washington State. The Association works to create policy and engages in advocacy on vision-driven issues and topics of special interest to public hospital districts.

B. Management Structure

Management of WTE's Phase 1 development plan will be provided by WTC's Steering Committee, chaired by Jeff Mero. This committee, comprised in part of representatives from all participating telehealth networks, will oversee the work defined in the project plan. Actual work will be conducted by a combination of technical and administrative staff persons from each participating telehealth network as well as contracted experts and technicians. The AWPHD will be the fiscal responsible agent for the project as proposed for Phase I.

Following Phase I, as the final network design is implemented, it is anticipated that Washington Telehealth Consortium (WTC) members will elect and form a Governance Board that functions as the central decision-making body and provides oversight in all activities undertaken over the statewide Washington Telehealth Exchange (WTE) network. Dedicated staff from partner organizations will report to the Board and a shared budget will support project staff and activities.

As well, it is anticipated that a separate organization will be identified through an RFP process to provide support and coordination for network operations, administration, provisioning and maintenance (OAP&M), in addition to other shared network resources including; value-added services hosted on the Washington Telehealth Exchange Network Portal and maintenance/update of WTE Portal interface and related equipment. Once the services of this organization are secured, it will report to the WTC Governance Board.

C. The WTE Work/Project Plan: A Phased Approach

The WTE's proposal seeks funding for a comprehensive network design study which will be Phase 1 of WTE's multi-phased design, deployment and utilization plan. A brief description of the Phase I network design study is provided here along with a sketch of the broader phases of the WTE plan for the purpose of setting a context for the proposed network design study. A more defined description of Phase 1 (i.e., the plan for which funding is currently requested) is provided in Section 3: Project Management Plan. The WTC expects to apply in Year 2 for additional funding from the RHC Pilot Program, and will also request funding from other appropriate federal, state and private sources.

In Phase 1, the WTC will engage in research, development and design activities that produce the following results:

1. A comprehensive **Statewide Network Design** that provides affordable, scaleable, access to telehealth services for a broad range of rural healthcare facilities including organizations that are currently members of telehealth networks and especially for those organizations that are not yet connected due to lack of access to sufficient bandwidth (geographic or financial reasons) and/or lack of knowledge and understanding.
2. An applied model for telehealth information exchange across the private-public network boundaries that complies with existing federal and state regulations and resolves settlement issues regarding the exchange of fee-based services and information.
3. A scalable web portal providing a directory of telehealth services from all participating telehealth networks, a master calendar for scheduling telehealth events across telehealth boundaries, and a basic video conferencing scheduling system. The portal will facilitate information sharing throughout the network design study by being the central repository for network information, WTC/WTE progress reports and dialog between study participants.
4. Construction and installation of an interconnection point for all participating telehealth networks.

The Phase 1 network design study for the WTE development is carefully crafted to lead to the fulfillment of the **“big picture vision”** which was put forward by the WTC participants.

The creation of an “interconnected, interoperable statewide telehealth system” which addresses the needs of Washington State's rural hospitals and clinics. In order to ameliorate barriers and create value for all stakeholders, the WTC desires to create an open, robust, multi-purpose telehealth and information network available to all health service vendors, hospitals and health care clinics operating in Washington State. The WTE will be built on the foundation of existing telehealth and information networks, taking the form of a fully interconnected and interoperable “network of networks” linked by standardized protocols for data sharing and exchange. A network backbone will be constructed by leveraging currently existing and available high-bandwidth capacity infrastructure assets in addition to building new infrastructure as necessary. Analogous to an information highway, the WTE will provide an accessible platform for content and service provision and inter-institutional collaboration and access to global medical resources through Internet2 and other advanced networks. Vendors (i.e. participating telehealth networks) will be able to “sell” their various content and services through the network, allowing consumers (i.e. hospitals and clinics) the opportunity to pick and choose from available products or become a full member of a private telehealth network. Because the network is open, hospitals and clinics will use WTE to share data, conduct point-to-point and multi-point communications, and distribute their own fee-based services. To access WTE, consumers (i.e., hospitals and clinics) and vendors must procure their own network connection (which may be initially subsidized through grant funding with ongoing subsidy possible through USAC for qualifying institutions) and pay a network membership fee, which goes into a central operating fund to cover the expenses of a third-party to manage network traffic, set network policies, and provide technical support to network members. Because of the WTE, hospitals and clinics in rural and

underserved communities will have the opportunity to both provide and receive specialty services, resulting in increased quality of care and convenience to their patients.

To achieve this “big picture vision”, additional phases of the WTE development will focus on the following set of activities that purposely build on the foundation established during Phase 1 – **please note that these activities are not part of the current proposal; descriptions of the activities are provided for context only.**

1. Based on the **Statewide Network Design** produced in Phase 1, a series of WTE aggregation points will be strategically dispersed throughout Washington State that will increase the availability of access for currently disconnected hospitals and medical clinics.
2. Based on the model for exchanging sensitive information across private-public network boundaries produced in Phase 1, a structure of **network protocols and settlement agreements** will be enacted to comply with HIPPA requirements and allay organizational concerns about the exchange of fee-based services and information.
3. The **WTE Web Portal** established in Phase 1 will be expanded to provide a “click-through” directory of telehealth specialist and an advanced video conferencing scheduling system
4. Building on the interconnection system and the model for information exchange across the private-public network boundary established in Phase 1, the interoperability of all participating telehealth networks will be expanded to include high demand fee-based telehealth services and applications, including the exchange of electronic medical records.
5. Development and implementation of an end-user stakeholder outreach effort designed to educate disconnected hospitals and clinic and conduct site assessments for hospitals and clinics serving rural and medically underserved areas.
6. Leverage the Internet2, the National LambdaRail and Northwest GigaPOP to align with other regional and national telehealth initiatives, thus enabling natural connections with Alaska, California, Idaho, Montana, and Oregon.

This proposed project seeks funding for the Phase 1 network design study of WTE’s multi-phase development and deployment. Below, the specific work plan for the Phase 1 network design study is described.

Phase 1 of WTE’s development includes four major activities:

- 1) Research and design of a comprehensive Statewide Network Design for WTE.
- 2) Research and design of an applied model for the exchange of all types of telehealth information across the private-public network boundary.
- 3) Implementation of an interconnection point for all participating telehealth networks
- 4) Implementation of a web portal designed to provide a directory of services, a master calendar of telehealth-related events across participating telehealth networks, and a basic videoconferencing scheduling system.

WTE Statewide Network Design

The network design study will evaluate options for a statewide network. During the WTC Planning Process (described in the Overview Section), the Network Design Task Group identified and investigated two viable models for a statewide telehealth network. These two plans were informally dubbed the “**I-90 model**” and the “**K20 model.**” While both models accomplish the stated task of rolling out a affordable access to all interested hospitals and clinics in Washington State, numerous complicating issues arose during closer analysis. The Network Design Task Group recommended that further study of both models

in addition to considering alternatives is needed to make the best choice for Washington State. The network design study will take the Task Group's preliminary work to the next level. Despite the need for further study, the task group did identify a common needed element for the success of either model: the interconnection of existing telehealth networks; therefore, one of the key elements of the Phase 1 design study is to focus on ways to reach the interconnection point upon which the eventual design of a statewide network can be built, whatever form or iteration is ultimately decided upon.

The **"I-90 model"** is essentially a peering model that includes a statewide backbone similar to Washington's Interstate 90, thus the unofficial title of the model. The "I-90 model" includes aggregation points, similar to I-90's on-ramps and off-ramps, within regions for access to the network and the transmission of traffic throughout the state. This model is very similar to the way that many large scale networks are constructed today, including the Internet, Internet2, Abilene, Lambda Rail, etc.

The "I-90 model" makes good use of existing telehealth networks by providing a method of interconnecting them at one or more points. Depending on the topology of those existing networks, they may be able to provide some of the backbone of the overall statewide network in addition to providing some of the aggregation points. New backbone and aggregation points would likely need to be created to service portions of the state that are currently underserved and when comparing end points the existing Telehealth Network operators may find areas of common need that could be better served with a new aggregation point at a lower overall cost.

Pros of the "I-90 model"

- Good use of existing network infrastructure and assets with extensive coverage
- Proven model for connecting networks and delivering content
- With well placed aggregation points this will shorten the local-loop length for accessing the network, thereby reducing the cost to connect
 - Existing networks are working today (kinks are worked out)
- Clear support model and easy to troubleshoot
- Easy to apply a QoS/CoS model

Cons of the "I-90 model"

- Not all of the backbone exists today and would need to be funded, built, and operated
- Multiple operators require good communication and coordination for interconnection to work well
- Settlement model could be difficult to agree to for one operator to carry another operator's traffic
- Difficult to define and agree on an end-to-end QoS/CoS model
- Potential for interoperability issues due to what is likely a multi-vendor approach

The **"K20 model"** could overlay onto or be a part of "I-90 model" described above. In Washington State there is currently a network known as K20 and it serves as a long-haul network for the state's public education system (kindergarten through university, hence the name K20). Because the K20 is an existing network with a statewide backbone and multiple aggregation points (similar to the I90 model), telehealth traffic could be overlaid using different logical layers. K20 could be included in an I-90 model along with the existing networks. K20 provides both private content as well as Internet transit to its customers. The existing K20 network (i.e., the one used for public education) could also act as an aggregator and an outsourcer for the WTE.

The existing K20 network is a high speed fiber-optic based backbone spanning the entire state. From aggregation points throughout the state, K20 users connect via various telecommunications methods such as T1, DS3, OCn, and Ethernet. These access circuits are purchased under negotiated contracts for a very favorable rate from existing telecommunications carriers and are likely less expensive than current circuits used by Washington States disparate telehealth networks.

Pros of the “K20 model”

- Existing network throughout the state with strong legislative support
- Easily scaled in terms of capacity
- Defined settlement model for access and exchange of traffic
- Large number of users to help drive economies of scale

Cons of the “K20 model”

- Architected for a different type of traffic with different end user business models
- Overall governance
- May not support all traffic types currently carried or planned for by existing Telehealth operators
- Currently deployed technology may not support some desired features without significant capital expense

In Phase 1, the pros and cons of these two models, in addition to alternative models, will be more deeply studied by a group of network engineers from the participating telehealth networks, the K20 network and the private sector. It is expected that a hybrid between these two seemingly competitive options will be devised and implemented for the WTE.

Model for Exchange across Private-Public Network Boundaries

During the WTC Planning Process, the Network Design Task Group anticipated a significant barrier to implementing any statewide network: the issue of how private (closed) and public (open) networks will exchange telehealth information across their boundaries. In Washington State, there are no known solutions for this projected problem; therefore, the Network Design Task Group recommended that a model for facilitating an exchange across the private-public boundary. The network design study will consider various exchange models. Significant issues to be resolved by this model evaluation include:

- Protocols for tracking the origin of information needed to enable reimbursement and attribution should a piece of information require such.
- Translation protocols of all information types, which will require an investigation of current practices and standards.
- Data security and integrity issues, including the need for a list of rules for compliance with federal and state regulations
- Governance issues defining settlement arrangements and procedural rules.

When solved, this issue will be offered to other states and regions as a case study to be freely shared as a model for other budding statewide networks. Development of the private-public exchange model will require approximately three weeks of concentrated research and design effort from a small group of experts.

WTE Interconnection of Participating Telehealth Networks

Phase I operation of the WTE is facilitated by interconnecting participating telehealth networks at the Westin Building in Seattle. WTC members recognize that interconnection alone will not achieve the Washington Telehealth Consortium's vision to create an open, robust, multi-purpose telehealth and information network available to all health service vendors, hospitals and health care clinics operating in Washington State. However, the interconnection of Washington's telehealth networks is an essential step in creating a formal "network-of-networks" and will serve as the foundation of the statewide network and will be leveraged in the network research and design activities described in the WTE Phase I plan. The immediate benefits of the proposed interconnection to site-level network participants include access to a variety of Continuing Professional Education content and access to a larger variety of specialty clinical telehealth applications. Also, interconnection will enhance the performance and decrease the cost of statewide collaborative activities such as administrative videoconferencing.

The costs requested by the WTC to be covered by the RHC pilot program include the cost of co-location space, power, and some common equipment that members will connect to and maintenance of the connection. Figure 2 illustrates a schematic of the expected interconnected network of networks.

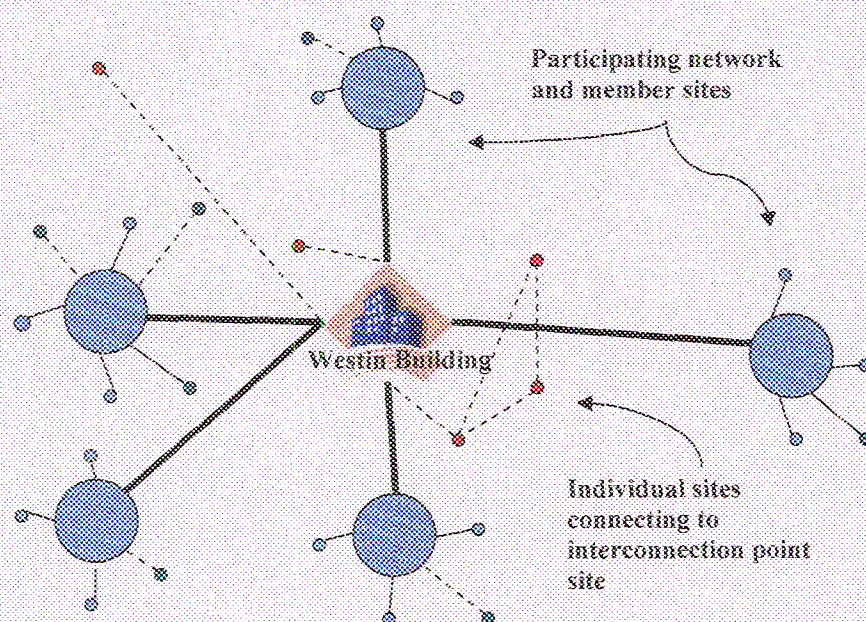


Figure 2: Schematic of the Phase I Interconnection Network of Networks

Additionally, many rural hospitals in Washington State choose to maintain multiple subscriptions to disparate telehealth networks in order to combat perceived service gaps and to maximize their telehealth experience. Due to the currently disconnected state of Washington's telehealth networks, multiple subscriptions require the maintenance and burdensome cost of multiple circuits. Interconnection will allow these hospitals to drop duplicative circuits, and require that hospitals maintain only enough circuits to provide adequate bandwidth. Cost savings realized from decreased telehealth connectivity charges can be used instead to purchase telehealth content and services.

Development of the WTE Interconnection Point will require approximately one week of a small group of engineers and technicians to install, configure and test the following equipment: Cisco 6509 Chassis, Supervisor 720-3b, 6748 48-port GigE SFP Line Card, Network Analysis Module-2, Single and Multi-mode fiber cross connectors, and additional support materials.

WTE Web Portal

The WTE is not a direct telehealth service and application provider. The WTE will not generate its own telehealth content, rather, the WTE aggregates the telehealth service and application market by bringing together Washington State's robust telehealth vendors (i.e. telehealth networks) in a common marketplace.

The WTE Web Portal will be an essential tool in facilitating business transactions between service and application vendors and telehealth service and application consumers (hospitals and clinics). The Web Portal is considered the gateway to Washington's "Telehealth Marketplace." This tool overcomes previous market penetration barriers faced by vendors and saves consumers valuable time and resources by centralizing telehealth service and application choices.

The provision of this service, telehealth content aggregation, maximizes the participation of WTE Members and the sharing of information among and between participants. The WTE Web Portal will provide a variety of resources and value-added services available to WTE Members. Today, there is no such service for Washington State and the Web Portal provides a platform from which the WTE network can evolve.

A publicly accessible homepage includes overviews of, and updates about, the WTE statewide network and the WTC and will also include information about membership opportunities. To move beyond the home page, users will have to log-in using a password to access the gateway to the telehealth marketplace where WTE Members can easily navigate through content and services offered by the interconnected WTE Member telehealth networks. Google-like search results will speed the navigation process. Advertising space on both the public and private portions of the WTE Web Portal will be sold to telehealth vendors and leveraged to drive down further the minimal operating costs of the portal.

Additionally, WTE Web Portal will be used as a collaborative tool in the network design study and will be a repository for research generated by the network design team, encouraging the sharing of information by and between study participants.

Via the Portal, WTE Members will have access to the following value-added services:

- **Directory of Services:** A searchable, database-driven Directory of Services will provide WTE Members with a list of free and fee-based telehealth services and applications that have been made available for use. This value-added service will assist member sites in identifying appropriate services and applications that are most needed by their hospital or clinic.
- **Master Calendar:** A searchable, database-driven Master Calendar will provide up-to-date information about trainings, continuing education opportunities, and meetings relevant to network members. Calendar events are populated both by network members and through coordinated dialogue with external organizations. The Master Calendar will provide a platform for WTE Members to find telehealth content that is most relevant to their needs and schedules.
- **Basic Videoconferencing ;SchedulingSystem:** A simple web-form will be used to request bridge connections within and across interconnected telehealth networks. As sessions are requested and scheduled, availability of bridge connections for given times and dates will be updated and posted on the WTE Web Portal.
- **Repository of Network Design Study information and network information:** The portal will be an indispensable tool of the network design study. It will offer study participants an opportunity to share information and data needs as well as be a repository for existing and to be developed network data.

The WTE Web Portal is designed to complement the Washington Telehealth Consortium's statewide telehealth research and design efforts and enhances the Phase 1 interconnection of WTE Member

telehealth networks by providing a visual and interactive interface that ties telehealth vendors and consumers together.

To develop the WTE Web Portal, approximately **500 hours of web design**, coding and equipment configuration will be required. Additionally, web application licenses for several products will be required, such as Salesforce, PHP and SQL; where possible, free software solutions such as Plone will be incorporated into the web portal design.

D. Schedule – Project Timeline

Assuming this project (Phase I of the WTE) is funded by September 1, 2007, a 12 month timeline will be used to implement the various activities. Should funding be granted at a different date (earlier or later), this timeline can be adjusted accordingly. Phase I of the WTE network design study is scheduled to be fully complete in one full calendar year. Once developed, the network design study will provide the blueprint for network deployment, utilization and sustainability. The network design study timeline is organized by month.

September 2007

- The WTC Steering Committee will meet face-to-face to review the full work plan and to develop RFP's for: 1) the construction of the Web Portal, 2) the formation of the special task group to develop the Private-Public Network Exchange Model, and 3) installation of the WTE Interconnection Point.
- The Network Design Task Group will be convened to prepare for a series of work sessions aimed to accomplish the following tasks: 1) frame the Statewide Network Design research process; 2) coordinate the installation process for the WTE Interconnection Point; and 3) provide input on the formation of a special task group to develop the Private-Public Network Exchange Model.
- The Governance Task Group will be convened to provide input on policy and settlement issues related to the formation of a special task group to develop the Private-Public Network Exchange Model.

October 2007

- RFP for the Web Portal construction will be released, proposals will be due end of October
- RFP for the special task group to develop the Private-Public Network Exchange Model will be released, proposals will be due end of October.
- RFP for the Installation of the WTE Interconnection Point will be released, proposals will be due end of October.
- The Steering Committee will begin a series of bi-weekly teleconferences for the purpose of managing the progress of the Phase I project.
- The Network Design Task Group will meet face-to-face for two days to begin the research and development of the Statewide Network Design.

November 2007

- The Steering Committee will substitute one of their regularly scheduled bi-weekly teleconferences with a face-to-face meeting to make final decisions on all three RFP processes. The Steering Committee will also meet once via teleconference for project management purposes.

- The AWP/HD will initiate contracts with all vendors chosen to work on the various aspects of Phase I.
- The Network Design Task Group will meet face-to-face for a second two-day work session to continue the research and development of the Statewide Network Design.

December 2007

- The Steering Committee will continue their series of bi-weekly teleconferences for the purpose of managing the progress of the Phase I project.
- The special task group charged to develop the Private-Public Network Exchange Model will meet for the first 5-day work session to scope the problem.
- Vendors chosen to install and configure the WTE Interconnection Point will complete and present their work.
- The Network Design Task Group will meet for a special one-day meeting at the Westin Building to test the newly installed and configured WTE Interconnection Point.
- Vendors chosen to design and construct the WTE Web Portal will begin their work.

January 2008

- The Steering Committee will continue their series of bi-weekly teleconferences for the purpose of managing the progress of the Phase I project.
- Vendors chosen to install and configure the WTE Interconnection Point will respond to any required modification determined by the Network Design Task Group.
- The Network Design Task Group will meet face-to-face for a third two-day work session to complete the research and development of the Statewide Network Design, which will be presented to the Steering Committee and the special task group charged to develop the Private-Public Network Exchange.
- Vendors chosen to design and construct the WTE Web Portal will complete and present their work to the Steering Committee and the Network Design and Governance Task Groups.
- The Network Design Task Group will begin a series of content delivery tests of Interconnection Point.
- The special task group charged to develop the Private-Public Network Exchange Model will meet for the second 5-day work session to map the solutions.

February 2008

- The Steering Committee will continue their series of bi-weekly teleconferences for the purpose of managing the progress of the Phase I project.
- The Network Design Task Group will refine and modify the WTE Network Design based on feedback from the Steering Committee and the special task group charged to develop the Private-Public Network Exchange.
- Vendors chosen to design and construct the WTE Web Portal will modify the portal based on feedback from the Steering Committee and the Network Design and Governance Task Groups.

- The special task group charged to develop the Private-Public Network Exchange Model will meet for the third 5-day work session to define and test their final model, which will be present to the Steering Committee and the Network Design and Governance Task Groups.

March 2008

- The Steering Committee will continue their series of bi-weekly teleconferences for the purpose of managing the progress of the Phase 1 project.
- The WTE Interconnection Point will be launched.
- The Network Design Task Group will develop a work plan and budget to implement the WTE Network Design.
- The special task group charged to develop the Private-Public Network Exchange Model will modify their final model based on feedback from the Steering Committee and the Network Design and Governance Task Groups.

April 2008

- The Steering Committee will substitute one of their regularly scheduled bi-weekly teleconference meeting with a face-to-face meeting to: 1) determine a launch plan for the WTE Web Portal, and 2) develop a plan to fund the implementation of the WTE Network Design.
- The WTE Web Portal will be launched.
- The Network Design Task Group will monitor the activities of the WTE Interconnection Point, making modifications as necessary.

May 2008

- The Steering Committee will continue their series of bi-weekly teleconferences for the purpose of managing the progress of the Phase 1 project.
- The activities of the WTE Web Portal will be monitored, needed modifications will be implemented by the Steering Committee and the Web Portal vendor.
- A request for Year 2 funding from the RHC Pilot Program will be assembled and submitted

June 2008

- The Steering Committee will continue their series of bi-weekly teleconferences for the purpose of managing the progress of the Phase 1 project.
- Operations of the WTE Interconnection Point and Web Portal will be monitored and improved as necessary.

July 2008

- The Steering Committee will continue their series of bi-weekly teleconferences for the purpose of managing the progress of the Phase 1 project.
- Continued operations of the WTE Interconnection Point and Web Portal will be monitored and improved as necessary.

August 2008

- The Steering Committee will substitute one of their regularly scheduled bi-weekly teleconference meeting with a face-to-face meeting to prepare a report on the Phase 1 plan for the RHC Pilot Program.
- An assessment of the WTE Interconnection Point and Web Portal will be conducted and results will inform Year 2 activities.

E. Budget

| | Total Project Funds | Ineligible Funds | Eligible Funds Requested from FCC | Eligible Funds Provided as Match |
|--|------------------------------------|-----------------------------|--|---|
| I. Administrative | | | | |
| Labor | | | | |
| Project Leadership: Jeff Mero | \$18,750 | \$18,750 | | |
| Project Coordinator: Wendy Ray | \$10,500 | \$10,500 | | |
| | | | | |
| Travel | | | | |
| AWPHD Project Management (in-state round trip with 1 overnight) | \$16,000 | \$16,000 | | |
| | | | | |
| Goods & Services | | | | |
| Teleconferencing | \$3,600 | \$3,600 | | |
| Printing | \$600 | \$600 | | |
| Postal | \$180 | \$180 | | |
| | | | | |
| Total Administrative | \$49,630 | \$49,630 | | |
| 11. Research and Design Activities | | | | |
| Release Time/Compensation | | | | |
| Process Facilitation (WSU-CBDD) | \$120,000 | \$0 | \$102,000 | \$18,000 |
| Network Design Task Group Release Time | \$87,500 | \$0 | \$74,375 | \$13,125 |
| Steering Committee Release Time | \$43,750 | \$0 | \$37,187 | \$6,563 |
| | | | | |
| Travel | | | | |
| Steering Committee (in-state round trip with 1 overnight) | \$15,000 | \$0 | \$12,750 | \$2,250 |
| Network Design Task Group (in-state round trip with 1 overnight) | \$17,500 | \$0 | \$14,875 | \$2,625 |
| Governance Task Group (in-state round trip with 1 overnight) | \$5,000 | \$0 | \$4,250 | \$750 |
| | | | | |
| Total Consulting | \$288,750 | \$0 | \$245,438 | \$43,313 |

| | Total Project Funds | Ineligible Funds | Eligible Funds Requested from FCC | Eligible Funds Provided as Match |
|---|------------------------------------|-----------------------------|--|---|
| III. WTE Interconnection Point | | | | |
| Sub-Contract | | | | |
| Vendor(s) to install and configure Interconnection Point (RFP) | \$18,000 | \$0 | \$15,300 | \$2,700 |
| Equipment | | | | |
| Co-location Rack/Cabinet | \$1,000 | \$0 | \$850 | \$150 |
| 1 IOV 30amp AC Power Feed | \$2,400 | \$0 | \$2,040 | \$360 |
| Single mode fiber cross-connect to meet-me | \$1,500 | \$0 | \$1,275 | \$225 |
| Multi-mode fiber cross-connect to meet-me | \$1,500 | \$0 | \$1,275 | \$225 |
| Cisco 6509 Chassis + Fan Tray | \$6,290 | \$0 | \$5,347 | \$943 |
| 6509 3000W Power Supply | \$7,560 | \$0 | \$6,426 | \$1,134 |
| Supervisor 720-3b | \$35,280 | \$0 | \$29,988 | \$5,292 |
| 6748 48-port GigE SFP Line Card | \$31,500 | \$0 | \$26,775 | \$4,725 |
| Single-mode LX SFP | \$60,192 | \$0 | \$51,163 | \$9,029 |
| Network Analysis Module-2 | \$18,896 | \$0 | \$16,062 | \$2,834 |
| APC 6KVA 208V UPS | \$8,900 | \$0 | \$7,565 | \$1,335 |
| Services | | | | |
| 24x7x4 SmartNet Maintenance (annual) | \$9,500 | \$0 | \$8,075 | \$1,425 |
| Space Rental at Colo for Rack/Cabinet | \$6,000 | \$0 | \$5,100 | |
| Power for 110V 30amp AC Power Feed | \$8,640 | \$0 | \$7,344 | \$1,296 |
| Total WTE Interconnection Point | \$217,158 | \$0 | \$184,584 | \$32,574 |
| IV. WTE Web Portal | | | | |
| Sub-Contract | | | | |
| Vendor(s) to design and construct Web Portal (RFP) | \$60,000 | \$0 | \$51,000 | \$9,000 |
| Data Designer | \$60,000 | \$0 | \$51,000 | \$9,000 |
| Equipment | \$12,000 | \$0 | | |
| Web Application Licenses | \$12,000 | | \$10,200 | \$1,800 |
| Video Conferencing Station (Polycom VSX 3000) | \$3,500 | \$0 | \$2,975 | \$525 |
| Services | | | | |
| Registration for Domain Name (annual) | \$100 | \$0 | \$85 | |
| Web Hosting Services | \$6,000 | \$0 | \$5,100 | \$900 |
| Total WTE Web Portal | \$141,600 | \$0 | \$120,360 | \$21,240 |

| | Total Project Funds | Ineligible Funds | Eligible Funds Requested from FCC | Eligible Funds Provided as Match |
|--|------------------------------------|-----------------------------|--|---|
| V. Private-Public Network Exchange | | | | |
| Sub-Contract | | | | |
| Labor to develop the Private-Public Exchange (RFP) — | \$1 60,000 | \$0 | \$136,000 | \$24,000 |
| | | | | |
| Total Private-Public Network Exchange | \$160,000 | \$0 | \$136,000 | \$24,000 |
| VIII. Direct / Indirect Costs | | | | |
| a. Direct Costs Associated with Project | \$857,138 | \$49,630 | \$686,382 | \$121,126 |
| b. Indirect Costs Associated with Project | \$0 | | | |
| | | | | |
| IX. Total Funds | \$857,138 | \$49,630 | \$686,382 | \$121,126 |
| | | | | |
| Percent to Total Request | 100% | 5.79% | 85% | 15% |
| | | | | |
| Eligible Expense | \$807,508 | | \$686,382 | \$121,126 |
| Percent – Eligible Expense | 100% | | 85% | 15% |

F. Budget Narrative

The following narrative is for Year 1 of the WTE project

I. Administrative

Labor

Leadership Jeff Mero, Executive Director of the Association of Washington Public Hospital Districts (AWPHD) **will** dedicate approximately 15% of his time as the leader of the this project, which will cost **\$18,750** for Year 1.

Project Coordinator: Wendy Ray, the Assistant to the Executive Director of AWPHD will dedicate approximately 15% of her time as the project coordinator, which will cost **\$10,500**

Travel

AWPHD staff (i.e., Jeff Mero and Wendy Ray) anticipates at least 16 in-state, overnight trips as part of their leadership and coordination duties in implementing this project. This travel includes on-site management travel and attendance of Steering Committee, Network Design, and Governance Task Group meetings at an average cost of \$500 per person, per trip Total travel costs are expected to total **\$16,000**.

Goods & Services

AWPHD staff project the following administrative expenses related to the management of their leadership and coordination duties: teleconferencing, printing, and postage. Total management costs are expected to by **\$4.380**

Total Administrative costs, all of which are ineligible for FCC funding and will be provided through the generous contributions of the AWPFD, are projected to be **\$49,630**. None of these funds are counted as match by the AWPFD, nor are any of these funds requested from the FCC.

II. Research and Design Study Activities

Release Time Compensation

Process Facilitation is expected to require approximately 2,000 hours at a rate of \$60 per hour. The outside facilitator will be responsible for the overall coordination of network design and planning functions ensuring deliverables are achieved in a timely fashion. The Project Management consultant will also provide project facilitation services ensuring meaningful stakeholder involvement in network development decisions throughout the Phase 1 process. Total cost for Process Facilitation is expected to be **\$120,000**.

Network Design is expected to require approximately 700 hours at a rate of \$125 per hour. Members of the Network Design Task Group with technical and network engineering expertise will provide research, analysis and development toward the development of a statewide solution to be implemented during Phase 2 of the WTE development (in Year 2). Total cost of the Network Design process is expected to be **\$87,500**.

The Steering Committee will be required to vet and approve governance and settlement issues related to the interoperability of the WTE. Approximately 350 hours at a rate of \$125 per hour will be required. Because the members of the Steering Committee are high level executives from the disparate telehealth networks in Washington State, compensation for release time is needed to ensure focused effort from this important group. Total cost for the Steering Committee process is expected to be **\$43,750**.

The WTC believes that funding these categories of activities which will be conducted by individuals with expertise outside of the WTC are within the letter and spirit of the Rural Health Care Pilot Program. These are not expenses which would be incurred in the ordinary management and administration of the WTC and should not be viewed as administrative. Alternatively, a waiver is being requested for the above services as this budget item is an essential component to the successful completion and conduct of a comprehensive network design study.

Travel

The Steering Committee, consisting of 6 people, will meet face-to-face at least 5 times during Year 1 requiring overnight, in-state travel at an average cost of \$500 per person, per trip. Total cost for Steering Committee travel is expected to be **\$15,000**.

The Network Design Task Group, consisting of 7 people, will meet face-to-face at least 5 times during Year 1 requiring overnight, in-state travel at an average cost of \$500 per person, per trip. Total cost for the Network Design Committee travel is expected to be **\$17,500**.

The Governance Task Group consisting of 5 people, will meet face-to-face at least 1 time during Year 1 requiring overnight, in-state travel at an average cost of \$500 per person, per trip. Total cost for the Network Design Committee travel is expected to be **\$5,000**.

A waiver is being requested for all consulting travel services as this budget item is an essential component to conduct the network design study.

Total Consulting costs, including release time and travel expenses, are projected to be **\$288,750**. As part of its match, the AWPFD will cover 15% of this cost, the remaining 85% of these cost are requested from the FCC.

III. WTE INTERCONNECTION POINT

Sub-Contract

An external vendor with the expertise to install and configure the WTE Interconnection Point will be required. It is expected that a qualified vendor will require 120 hours at a cost of \$150 per hour. Total cost for a vendor to set-up the WTE Interconnection Point will be **\$18,000**.

Equipment

Establishment of the WTE Interconnection Point will require the following list of equipment. Costs and quantities are included in the list.

| <u>Item Description</u> | <u>cost</u> | <u>Qty</u> | <u>Total</u> |
|--|--------------------|-------------------|---------------------|
| Co-location Rack/Cabinet | \$1,000 | 1 | \$1,000 |
| 110V 30amp AC Power Feed | \$1,200 | 2 | \$2,400 |
| Single mode fiber cross-connect to meet-me | \$1,500 | 1 | \$1,500 |
| Multi-mode fiber cross-connect to meet-me | \$1,500 | 1 | \$1,500 |
| Cisco 6509 Chassis + Fan Tray | \$6,290 | 1 | \$6,290 |
| 6509 3000W Power Supply | \$3,780 | 2 | \$7,560 |
| Supervisor 720-3b | \$17,640 | 2 | \$35,280 |
| 6748 48-port GigE SFP Line Card | \$15,750 | 2 | \$31,500 |
| Single-mode LX SFP | \$627 | 96 | \$60,192 |
| Network Analysis Module 2 | \$18,896 | 1 | \$18,896 |
| APC 6KVA 208V UPS | \$4,450 | 2 | \$8,900 |

Total equipment costs for the WTE Interconnection Point are projected to be **\$174,018**. These costs are not recurring.

Services

Beyond the vendor and equipment cost, a set of services will be required to support the WTE Interconnection Point. Below a list of these services are provided.

| <u>Item Description</u> | <u>cost</u> | <u>Qty</u> | <u>Total</u> |
|---|--------------------|-------------------|---------------------|
| 24x7x4 SmartNet Maintenance (annual) | \$9,500 | 1 | \$9,500 |
| Space Rental at Colo for Rack/Cabinet (month) | \$500 | 12 | \$6,000 |
| 110V 30amp AC Power Feed (month) | \$720 | 12 | \$8,640 |

Total service costs for the WTE Interconnection Point are projected to be **\$24,140** for Year 1. These costs will be recurring and are factored into the sustainability plan described in section XII below.

Total WTE Interconnection Point costs, including vendor cost, equipment costs and services, are projected to be **\$217,158**. As part of its match, the AWPFD will cover 15% of this cost, the remaining 85% of these cost are requested from the FCC.

IV. WTE WEBPORTAL

Sub-contract

An external vendor with the expertise to design and construct the WTE Web Portal will be required. It is expected that a qualified vendor will require 600 hours at a cost of \$100 per hour. Total cost for a vendor to set-up the WTE Web Portal will be **\$60,000**.

An external vendor with expertise in data design will be required to aggregate the needed information for the WTE Web Portal. This vendor will also be charged with the task of populating the WTE Web Portal with the collected and refined information. It is expected that a qualified vendor will require 600 hours at a cost of \$100 per hour. Total cost for a vendor to design the data required for the WTE Web Portal will be **\$60,000**.

Equipment

Various web application licenses will be required to support the planned WTE Web Portal such as sales force database and PHP-based software products. Total cost for these licenses is projected to be **\$12,000**.

Because the WTE Web Portal will support basic teleconferencing coordination, a desktop videoconferencing unit for the WTC is required. The Polycom VSX 300 has been identified as the most compatible unit for this purpose at a cost of **\$3,500**.

Services

Because no WTE Web Portal domain exists, a new domain will be selected and registered at an annual cost of **\$100**. This is a recurring cost and is included in the sustainability plan for the WTE (see section XII below).

A web site hosting service will support the 24/7 operation of the WTE Web Portal at a cost of \$500 per month, which includes "on call" maintenance and service. Total annual cost for this service is expected to be **\$6,000**. This is a recurring cost and is included in the sustainability plan for the WTE (see section XII below).

Total WTE Web Portal costs, including vendor cost, equipment costs and services, are projected to be **\$141,600**. As part of its match, the AWPFD will cover 15% of this cost, the remaining 85% of these cost are requested from the FCC.

V. PRIVATE-PUBLIC NETWORK EXCHANGE

Sub-contract

A team of 5 network and administrative experts familiar with telehealth issues will be assembled to assess the problem of exchanging information across the private-public network boundary, and to design and implement a feasible solution. This group will interact with the Steering Committee, the Network Design Task Group and the Governance Task Group in the design and implementation aspects of their work. We expect this work to require a total of 800 hours at a cost of \$200 per hour to accomplish this task. Total cost for devising and implement the private-public network exchange solution is projected to be \$160,000.

Total WTE private-public network exchange costs are projected to be **\$160,000**. As part of its match, the AWPFD will cover 15% of this cost, the remaining 85% of these cost are requested from the FCC.

XI. COORDINATION: STATE & REGIONALLY

The Washington Telehealth Consortium was formed with the intent of leveraging existing telehealth assets in Washington State, including existing disparate telehealth networks, infrastructure, and expertise in order to create a responsive statewide telehealth network.

To this end, components of the Washington Telehealth Exchange have been designed to build upon this existing telehealth foundation and offer support and coordination at state and regional levels.

A. Phase I Activities Funded by FCC RHC Pilot

WTE Interconnection of Participating Telehealth Networks

Immediate benefits of the proposed interconnection to site level network participants in Washington State include access to a variety of Continuing Professional Education content and access to a larger variety of specialty clinical telehealth applications. Also, interconnection will enhance the performance and decrease the cost of statewide collaborative activities such as administrative videoconferencing.

Additionally, many rural hospitals in Washington State choose to maintain multiple subscriptions to disparate telehealth networks in order to combat perceived service gaps and to maximize their telehealth experience. Due to the currently disconnected state of Washington's telehealth networks, multiple subscriptions require the maintenance and burdensome cost of multiple circuits. Interconnection will allow these hospitals to drop duplicative circuits, and require that hospitals maintain only enough circuits to provide adequate bandwidth. Cost savings realized from decreased telehealth connectivity charges can be used instead to purchase telehealth content and services.

WTE Web Portal

The WTE Web Portal will provide a variety of resources and value-added services available to WTE Members. A publicly accessible homepage includes overviews of, and updates about, the WTE statewide network and the WTC and will also include information about membership opportunities. To move beyond the home page, users will have to log-in using a password to access the gateway to the telehealth marketplace where WTE Members can easily navigate through content and services offered by the interconnected WTE Member telehealth networks. Google-like search results will speed the navigation process.

Today, there is no such service for Washington State and ready access to telehealth programs will increase the efficiency of rural hospitals and clinics in finding appropriate content and services and will increase the ability of telehealth service providers to reach members of their target market.

Via the Portal, WTE Members will have access to the following value-added services:

- **Directory of Services:** A searchable, database-driven Directory of Services will provide WTE Members with a list of free and fee-based telehealth services and applications that have been made available for use.
- **Master Calendar:** A searchable, database-driven Master Calendar will provide up-to-date information about trainings, continuing education opportunities, and meetings relevant to network members. Calendar events are populated both by network members and through coordinated dialogue with external organizations.
- **Basic Videoconferencing Scheduling System:** A simple web-form will be used to request bridge connections within and across interconnected telehealth networks. As sessions are

requested and scheduled, availability of bridge connections for given times and dates will be updated and posted on the WTE Web Portal.

B. Other Phase I Activities Not Funded by the FCC

The Network Design Task Group is charged with achieving WTC's vision of a comprehensive telehealth network that will eventually connect hundreds healthcare organizations throughout Washington State. To achieve this goal, several barriers must be overcome such as recruiting more users, assisting with assessments to maximize effective use of telehealth services in individual facilities, and assessing additional telehealth services to be offered through the **WTE**. In order to most appropriately implement the WTE statewide telehealth network, the WTC is requesting funding from other sources (e.g., the Washington State Department of Health, Washington State Legislature, and the **USDA** Rural Utilities Services) to conduct the following research activities:

- **Stakeholder Recruitment:** During the first phase of operation, the WTC will actively seek and recruit organizations to join the Consortium and promote membership to the WTE. "Public Relations" activity will especially need to be targeted toward currently disconnected rural sites. Overall, members of the target market include, but are not limited to Rural Hospitals (including Critical Access Hospitals), Federally Designated Rural Health Clinics, Tribal Health Clinics, Public Health Districts, Mental Health Services, Private Telehealth Networks, Universities, Research Centers and Urban/Suburban Hospitals and clinics.
- **Telehealth Education and Outreach:** Of particular importance to the WTC are the needs and desires of Washington State's hospitals and clinics in rural and underserved areas. In order to be most responsive to this stakeholder group, education and outreach activities will be undertaken, in order to generate interest among Washington's healthcare community in using telehealth services and applications and to foster interest in joining a statewide telehealth network.
- **Rural Site Assessments:** Informed by interest generated in conducting outreach activities, the WTC will conduct Rural Site Assessments of select healthcare sites to determine what telehealth assets (both human and technical) are in place and the type and quality of infrastructure available. Findings from this research activity will inform overall network design.
- **Telehealth Provider Assessments:** Conducted to ascertain the capacity and willingness of Telehealth Providers to serve the needs of the statewide network's membership, assessments will serve to inform the overall comprehensive design of the proposed statewide network.
- **Comprehensive Connection Plan:** Informed by the site assessment, the work of the network design team will culminate in the creation of a Comprehensive Connection Plan, which takes into account both a high level network design and multiple site-level designs. The connection plan will address barriers to overcome and identify specific assets to leverage in the design of a statewide network. Further the plan will include the provision of specifications and recommendations for WTE network compatible telehealth applications and network equipment. Having undergone the rigorous site assessment, a working plan for each rural site will be developed to estimate costs of incorporating the networking, telecommunications, end user equipment (CPE), and membership requirements for each site to connect to the proposed statewide network.